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ABSTRACT

Technological advancement in academic library resources sharing, networking, and information transfer have developed dramatically in the past decade, with institutions (including nonacademic libraries) finding themselves hard pressed to acquire the resources necessary to institute or otherwise improve their networking capabilities. Further, these new developments have posed new problems that need to be researched in depth and new alternatives that need to be tested. To assist in meeting these needs, Congress enacted the College Library Technology and Cooperation Grants Program under the Higher Education Amendments of 1986, authorizing the Secretary of Education to make four types of grants: (1) Networking Grants for institutions of higher education demonstrating a need for special assistance to participate in library networking for resource sharing; (2) Combination Grants for institutions of higher education in need of special assistance for joint use of libraries; (3) Services to Institutions Grants to assist nonacademic libraries in providing additional services to academia; and (4) Research and Demonstration Grants supporting projects that meet national or regional library needs in the utilization of technology. In addition, Continuation Grants were also awarded to those projects which first won awards in 1988 and were recommended for continuation in 1989. This collection of abstracts provides information on each of the 62 projects funded in 1989, including the name of the institution, the project director, the grant period, funding for fiscal year 1989, the grant number, and a brief descritpion. Seven tables present: the state distribution of awards; a summary of the funding; grant requests, awards, and matching funds, by type of grant; descriptive information on institutions awarded grants; distribution of applications; distribution of awards; and the percentage of awards and funds. An appendix describes the formal grant application process. (MAB)

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Library Programs

HEA TITLE II–D

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College Library Technology and Cooperation Grants Program

Abstracts and Analysis of Funded Projects 1989

IR 053 538

Office of Educational Research and Improvement
U.S. Department of Education

Library Programs

HEA TITLE II–D

College Library Technology and Cooperation Grants Program

Abstracts and Analysis of Funded Projects 1989

by Neal K. Kaske

December 1990

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December 1990

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Foreword

Technological advances in resource sharing, networking, and information transfer have profoundly affected the operations and services of academic libraries, both big and small. To help them take advantage of new technology, Congress enacted the College Library Technology and Cooperation Grants Program under Title II-D of the Higher Education Act of 1965, as amended (HEA, Title II-D). Administered by the Office of Library Programs (LP), the program marked its second year of operation in fiscal year 1989.

The primary purpose of this publication is to present information on the 52 projects that received nearly $3.7 million in funding in FY 89 under HEA, Title II-D. There is a listing for each project that includes an abstract of activities and name, address, and telephone number of the project director and sponsoring institution. This year we are also pleased to expand our information to include analyses of the funded projects and grantees, as well as observations on trends in college library technology activities.

We prepared this booklet in response to requests for information about the kinds of projects currently funded under the College Library Technology and Cooperation Grants Program. We hope it will help you to plan for technological changes in your organization and answer questions you may have about academic library networking and resource sharing.

Anne J. Mathews, Ph.D.
Director
Office of Library Programs

Acknowledgments

Ray Fry, Acting Director of the LP's Library Development Staff (LDS), manages the College Library Technology and Cooperation Grants Program (HEA, Title II-D). Neal Kaske, LDS Senior Associate, is the Program Officer and author of this publication. Rachelle Russell, LDS Program Assistant, helped gather the data and prepare the manuscript for printing. Kathryn Perkinson, LDS Program Analyst, gave editorial assistance, as did Skee Smith of Information Services.

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Introduction

Before describing projects funded in fiscal year 1989 under the College Library Technology and Cooperation Grants Program, some background material on the program and grants competition may be useful.

The program is authorized under Title II-D of the Higher Education Act of 1965 (Public Law 89-329), as amended. Its purpose is stated in the final regulations and reads as follows:

> *The program is designed to encourage resource-sharing projects among the libraries of institutions of higher education through the use of technology and networking to improve library and information services provided to them by public and nonprofit private organization. Funds may also be granted to conduct research or demonstration projects to meet special needs in using technology to enhance library and information sciences.*
>
> from the Federal Register (Vol. 53, No. 137, July 18, 1988, page 27114)

Under this program there are four types of grants made each year:

> *(a) **Networking Grants.** These grants are designed to plan, develop, acquire, install, maintain, or replace technological equipment and software necessary to participate in networks for sharing of library resources.*
> *(b) **Combination Grants.** These grants are designed to establish and strengthen joint-use library facilities, resources, software, or equipment.*
> *(c) **Services to Institutions Grants.** These grants are designed to establish, develop, or expand programs or projects that improve the grantee's service to institutions of higher education.*
> *(d) **Research and Demonstration Grants.** These grants are designed to conduct research and demonstration projects to meet specialized national or regional needs in utilizing technology to enhance library and information sciences.*
>
> from the Federal Register (Vol. 53, No. 137, July 18, 1988, page 27115)

The regulations define eligibility in the following manner:

> *(a) For **Networking Grants**, institutions of higher education.*
> *(b) For **Combination Grants**, combinations of institutions of higher education,*
> *(c) For **Services to Institutions Grants**, public or nonprofit private organizations (other than institutions of higher education) that provide library and information services to institutions of higher education on a formal cooperative basis,*
> *(d) For **Research and Demonstration Grants**, institutions of higher education.*
>
> from the Federal Register (Vol. 53, No. 137, July 18, 1988, page 27115)

The types of authorized activities include (but are not limited to) the following:

(1) Networking membership fees and expenses;
(2) Acquisition of equipment and supplies, including computer hardware and software;
(3) Telecommunications expenses;
(4) Salaries of project personnel;
(5) Evaluation of the project; and
(6) Dissemination of information about the project.

from the Federal Register (Vol. 53, No. 137, July 18, 1988, page 27115)

Generally, the application deadline for a grant under HEA-IID is in January, and awards are made in August. Please see the appendix on page 71 for detailed information about the grant cycle, including information on making applications available, reviewing them, and making awards.

For more information on the College Library Technology and Cooperation Grants Program or to receive an application, please contact:

Program Officer
College Library Technology and
Cooperation Grants Program
The Office of Library Programs / OERI
U.S. Department of Education
555 New Jersey Avenue, NW
Washington, D.C. 20208-5571

Section I

Networking Grants

In fiscal year 1989, the Department of Education evaluated 175 applications under this grant category and made 23 awards totaling $1,143,755.

These funds are designed to provide assistance for the planning, development, acquisition, installation, maintenance, or replacement of technological equipment necessary to participate in networks for sharing of library resources.

The Networking Grants have allowed academic libraries to take advantage of technological advancements. They also have helped some institutions upgrade their outdated systems. The funds are being used to purchase equipment and to pay membership fees and associated costs for participating in national, regional, State, and local bibliographic, document-delivery, and library-automation networks all of which facilitate resource-sharing activities.

Eight of the 23 Networking Grants were made to 2-year public institutions (community colleges) and 7 were awarded to public 4-year (or higher) colleges and universities. The remaining 8 went to nonpublic 4-year (or higher) colleges or universities.

Institution **Augustana College**
Mikkelsen Library
29th & Summit
Sioux Falls, SD 57197

Project Director Ronelle Thompson, Director
(605) 336-4921

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$39,318	R197A90153

Abstract

The South Dakota Legislature recently appropriated funds to establish a cooperative library automation system among the state-owned institutions. Augustana College, the state's largest private, 4-year, liberal arts institution, will join this network in an effort to meet the information and educational needs of its increasingly sophisticated library users. Since there are no state funds available to subsidize library automation for private institutions, the college must raise the entire amount needed to fund the proposed project.

A statewide automated library system will allow patrons to access the holdings of the Augustana College Library from any terminal connected to the system, as well as the holdings of other participating South Dakota libraries, including another three in Sioux Falls. Patrons will be able to determine if a particular item of interest is available or in circulation. The system will provide increased access to the collections of the libraries in the database because of keyword searching--the ability to search for a term anywhere in the record, not just the title, author, or assigned subject headings.

Augustana's joining with other libraries in South Dakota to form a statewide database will make more than 1.5 million records available to patrons around the state.

Institution **Columbia State Community College**
P.O. Box 1315 Highway 412 West
Columbia, TN 38402-1315

Project Director Marvin J. Light, Director of Learning Resources Center
(615) 388-0120

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$29,405	R197A90181

Abstract

The College, a 2-year higher education institution in middle Tennessee, will implement a cost-effective retrospective conversion project (printed catalog card records to machine-readable (MARC) format). The goal is to improve access to and sharing of library resources throughout the higher education community by the use of technology and networking. The project combines the use of compact disc read only memory (CD-ROM) records with online database searching through the Online Computer Library Center (OCLC) to improve access to information between the college and other libraries involved in cooperative resource-sharing activities.

The project will take 1 year to complete and will utilize full-time professional library staff members as well as college work-study students as an integral part of the retrospective conversion activities. The outcome of the project will enhance information access for all residents of the middle Tennessee area.

Institution **Dickinson State University**
Stoxen Library
Dickinson, ND 58601

Project Director Bernnett Reinke, Library Director
(701) 227-2135

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$28,272	R197A90054

Abstract

Dickinson State University will purchase equipment and furniture which will make it possible to become an active participant in a new North Dakota Higher Education automated library system called ODIN. This cooperative arrangement involves nine academic libraries, one public library, and the North Dakota State Library. The cooperating parties plan to install an automated online library catalog with circulation, interlibrary loan, acquisitions, and serials modules. This system will provide students, faculty, and North Dakota citizens with a rapid and efficient means to access the learning resources of the state. The system can be linked to the Project for Automated Library System in Minnesota, South Dakota, and Manitoba. Because depressed agriculture and energy economies have placed strict financial restraints on state institutions, Dickinson State University is requesting federal assistance to purchase essential equipment and furniture.

Institution **D'Youville College**
320 Porter Avenue
Buffalo, NY 14201

Project Director Michele Farrell, Library Director
(716) 881-7616

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/92	$65,299	R197A90052

Abstract

D'Youville College will implement Phase II of DLAP (D'Youville Library Automation Project). This phase, over a 3-year period, will:

1. Make the D'Youville College Library a member of OCLC Resource Sharing System;
2. Convert 68,000 titles into machine readable form and purchase the OCLC CAT CD450 System;
3. Provide 8,000 OCLC libraries with access to D'Youville's bibliographic records;
4. Make available to D'Youville students and faculty over 17 million records that are part of the OCLC catalog; and
5. Allow D'Youville to add records and update their small existing computer-tape file by the least expensive method.

The college plans to match federal funding of this project by approximately 155 percent.

Institution **Georgetown University**
Dahlgren Memorial Library
Georgetown University Medical Center
3900 Reservoir Road, NW
Washington, DC 20057

Project Director Naomi C. Broering, Director
Biomedical Information Resources Center
(202) 687-1187

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/92	$149,756	R197A90032

Abstract

The Dahlgren Memorial Library, Georgetown University Medical Center, will establish a 3-year project to develop the Library Knowledge Network: Document Delivery Service. It will provide a system for electronic interlibrary exchange and resource sharing among four academic health science center libraries: Georgetown University, Howard University, the University of Maryland at Baltimore, and Johns Hopkins University. The goal is to foster networking among libraries by improving access and utilization of information resources. The Document Delivery Service will be a new component of the Georgetown University ™Library Information System (LIS). It will (1) design, develop, and implement a comprehensive LIS Document Delivery module which includes interlibrary loan, photocopy services, and facsimile transmission capabilities; (2) establish a multi-university Library Knowledge Network for library resource sharing; and (3) evaluate the project.

Institution **Gogebic Community College**
Learning Resources Center
E4946 Jackson Road
Ironwood, MI 49938

Project Director Helen Loughran, Director of the Learning Resource Center
(906) 932-4231

Grant Period	*Award*	*Grant Number*
10/01/89--9/30/92	$40,308	R197A90099

Abstract

Gogebic Community College will subscribe, purchase, and install equipment and implement a resource-sharing network with the Upper Peninsula Region of Library Cooperation, Inc., a consortium of regional libraries interested in sharing resources and improving information services. These activities will result in improved information sharing among regional and statewide libraries of higher education institutions, as well as various other libraries through the effective use of computer and telecommunications technology and networking. The information and library services provided among higher education, public, and nonprofit private libraries will be greatly enhanced.

The networking system funded by this grant will increase the resources available to Gogebic Community College from 25,000 titles of record to more than 500,000 regionally, and more than 17 million nationally.

Institution **John B. Stetson University**
duPont-Ball Library
421 N. Woodland Blvd
DeLand, FL 32720

Project Director Sims D. Kline, Director
Betty D. Johnson, Associate Director
for Technical Services
(904) 734-4121

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/92	$26,390	R197A90048

Abstract

The project objective is to increase significantly Stetson University's contribution to regional, state, and national library networks by sharing information resources through use of the latest library technology. The project components are:

1. Input of serials-holding records onto the OCLC's Union List Component;
2. Attachment of holding code to the basic OCLC bibliographic record;
3. Expedited document and information delivery via telefacsimile transmission;
4. Expansion of locally distributed CD-ROM catalog database;
5. Evaluation of the impact of the union listing and new technology used in resource sharing, particularly with regard to the University's participation in the Florida Library Information Network.

Funds will be used for a part-time support staff person to input holdings data on 4,000 bibliographic records; OCLC transaction costs; a microcomputer workstation for data input and network access; software and supplies; and a telefacsimile machine and related telecommunication costs for a 3-year period.

Institution **Long Island University**
Rockland Campus
Route 340
Orangeburg, NY 10962

Project Director John L. Barrie, Library Director
(914) 359-7200

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/92	$15,915	R197A90117

Abstract

The Long Island University/Rockland Campus Library will improve its ability to access shared resources through dedicated computer equipment and membership in OCLC Group Access Capability. This project will provide the library with efficient and modern computer equipment needed to promote and foster, in a cooperative manner, its ability to secure instructional resources to supplement its modest collection for the benefit of its faculty and students. Additionally, and at the same time, the Rockland Campus Library intends to make available its current and future resources to other institutions in the region through its membership in OCLC Group Access Capability.

Institution **Maryville College**
Lamar Memorial Library
Maryville, TN 37801

Project Director John H. Worley, Director
(615) 982-8257

Grant Period	*Award*	*Grant Number*
01/01/90--12/31/92	$29,633	R197A90154

Abstract

Maryville College's Networking Grant will enable its library to participate in the Southeastern Library Network (SOLINET), a regional affiliate of the OCLC. Membership in a bibliographic network such as SOLINET will be a significant advance in library efficiency, and more important, in the library's ability to access information for its constituency. Membership in SOLINET will be a quantum leap forward, providing the school, town, and region with the best access and service possible.

Institution **Mercy College Libraries**
555 Broadway
Dobbs Ferry, NY 10522

Project Director Mary Biggs, Director of Libraries
(914) 693-4500

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/91	$65,605	R197A90067

Abstract

Over a 2-year period, the Mercy College Library System will implement participation in the PALS online network for the purpose of sharing resources and services within the Westchester County region. The project has seven major objectives:

1. To provide students and faculty with direct access to regional resources;
2. To reduce barriers to catalog use for nontraditional students;
3. To provide users within the Library System with a current, effective union catalog;
4. To support the College's outreach mission through uniform, high-quality access to resources at all locations;
5. To strengthen and expand library services;
6. To enhance the academic program through creation of a state-of-the-art information environment; and
7. To enhance sharing of the College's resources and the development of other cooperative library activities with the regional colleges.

The PALS network will permit the College community to:

1. Access the regional academic library collections totaling over 2-1/2 million volumes;
2. Access directly many of the new proprietary electronic bibliographic and textual databases online at greatly reduced cost;
3. Retrieve materials more effectively;
4. Benefit from continued improvements to library service through advanced automated functions.

Institution **Middlesex County College**
P.O. Box 3050
155 Mill Road
Edison, NJ 08818

Project Director Abigail D. Studdiford, Director
Library Services
(201) 906-2561

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$30,305	R197A90130

Abstract

Middlesex County College will purchase and install equipment to enhance its capacity to participate in two cooperative library networks: the county-wide Libraries of Middlesex County Automation Consortium (LMxAC) and the national OCLC bibliographic network. Under this project, the College will increase the number of LMxAC/UTLAS and OCLC terminals and printers that are available for library staff use and add terminals and printers to allow public access to the LMxAC network. This expansion will enable the Middlesex library to engage in more effective and greater volume of interlibrary loan activity, thereby increasing the number and types of materials available to its patrons. The College will collect, compile, and analyze data regarding the use of the equipment to determine its effectiveness and impact on library use.

Institution **New River Community College**
Learning Resource Center Library
P.O. Drawer 1127
Dublin, VA 24084

Project Director Roberta S. White, Coordinator
(703) 674-3600

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/91	$34,000	R197A90129

Abstract

New River Community College has installed the Winnebago CIRC/CAT system in its Learning Resource Center Library. This system is a part of a computer network connecting all campus buildings. The circulation function of the system is fully operational. Funds are requested to hire a library assistant to input items for retrospective conversion of present holdings into the catalog system. At the present time, less than 5 percent of the holdings have full MARC records on the catalog system and without additional staff, retrospective conversion will require 7 to 10 years. With funding provided for this position, conversion should be complete in 18 months.

When the catalog contains information on a significant portion of the library holdings, anyone who has access to the computer network will be able to search the catalog. Computer stations with modems will be placed at four off-campus sites to provide access to the library catalog 24 hours a day.

As a separate part of the project, two CD-ROM stations will be installed in the library and equipped with online access to two standard library databases to increase the availability of research materials on campus.

Institution **Oakland Community College**
2480 Opdyke Road
Bloomfield Hills, MI 48013

Project Director Johanna Kobran, Executive Director
of Learning Resources Center
(313) 853-4211

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/92	$73,592	R197A90200

Abstract

Oakland Community College librarians and administration have made a commitment to full membership in DALNET. DALNET's by-laws state that "this organization shall function to promote and to develop cooperative programs using shared library automation applications...".

Oakland Community College plans to meet the following seven objectives:

1. Within the next year, implement a DALNET affiliation which will establish a more productive system of resource sharing between the college's library system and libraries in the Detroit metropolitan region;
2. Assist faculty members in improving their plan of instruction by making a larger collection of publications available;
3. Assist faculty in increasing the variety of topics that can be included in any given course by making a wider selection of publications available;
4. Assist faculty in curriculum development by making more current curricular information available;
5. Provide students more time to prepare research papers and exams by maintaining a more efficient system of library resource sharing;
6. Provide students a greater choice of research topics by making a greater number of publications available; and
7. Increase services to members of the communities within the college's service area.

In meeting the program objectives, Oakland Community College will be participating electronically in a network for sharing library resources. The service will improve, expand, and facilitate the libraries' ability to fill patron requests for materials. The DALNET member

libraries are within commuting distance of one another. Students enrolled in degree programs at the universities also take classes at the community colleges in the region.

Institution **Oglala Lakota College**
Learning Resources Center
Box 490
Kyle, SD 57752

Project Director Ted Hamilton, Project Director
(605) 455-2321

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$99,565	R197A90173

Abstract

The purpose of this project is to install automated systems to improve library services, access to resources, and delivery of documents to the Oglala Lakota College faculty and students, patrons of Pine Ridge reservation, and members of the American Indian Higher Education Consortium (AIHEC).

In order to accomplish this purpose, the following objectives will be implemented:

1. To improve library services by providing efficient access to the LRC collection and by automating the circulation system;
2. To provide access to resources by becoming an online member of PALS (Project for Automated Library Systems) of the South Dakota State Library Network; and
3. To increase speed and efficiency of delivering documents through a telefacsimile system to patrons at Oglala Lakota College, to other AIHEC colleges, and to PALS.

As a result of this project, OLC students and faculty will be able to access the LRC collection more efficiently; to access the 1.3 million library resources through the PALS; and to access non-circulating documents through a telefax system. Reservation patrons and schools will be able to use all of the above services through their District College Center libraries. Member institutions in AIHEC with microfiche readers will have efficient access to the OCLC collection and the AIHEC archives. Those with telefax capabilities can transmit requests and receive documents from the Learning Resources Center.

Institution **Pace University Law Library and University of Bridgeport Law Library**
78 North Broadway
White Plains, NY 10603

Project Director Nicholas Triffin, Director
of the Law Library
Pace University School of Law
(914) 681-4275

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/92	$31,170	R197A90174

Abstract

Pace University Law Library and the University of Bridgeport Law Library have entered into an agreement for cooperative buying and use of library materials to expand the coverage of their collections, while reducing duplication. For this agreement to work effectively, a rapid means of transmission of materials is needed. For microfiche materials, fiche-to-fiche duplication systems will enable the libraries to copy and mail large quantities of information at a comparatively cheap rate.

The networking equipment grant will fund telefacsimile and microfiche-copying equipment to enable Pace University Law Library and the University of Bridgeport Law Library to share their library materials more effectively with each other. Pace University is a member of the METRO network in New York, and Bridgeport Law Library is a member of the NELLCO network in New England. This project also will enable additional and better links to be formed with members of these networks.

Institution

Prairie State College
Learning Center
202 South & Halsted Streets
Chicago Heights, IL 60411

Project Director

Pamela Gaitskill, Director
of the Learning Center
(312) 709-3551

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/92	$45,005	R197A90175

Abstract

Prairie State College Learning Resources Center will acquire and install computer equipment needed to input its collection into an automated network database resulting in enhanced resource sharing throughout the college district, region, and state.

Specifically, Prairie State College LRC would become a full participant in the Suburban Library System's SWAN Automated Circulation Control System, which is a combined resource sharing and circulation system. Benefits will include Prairie State College students' and community residents' having expedited access to the holdings of 59-member libraries and beyond. Patrons of other libraries will have expedited access to the Prairie State College LRC collection via this automation network.

Institution **Spokane Falls Community College**
W3410 Fort George Wright Drive
Spokane, WA 99204-5288

Project Director John M. Thompson, Director
Learning Resources
(509) 459-3800

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$29,861	R197A90165

Abstract

Spokane Falls Community College (SFCC) provides educational service to six eastern Washington Counties comprising 12,000 square miles. The area is primarily rural, with communities outside Spokane varying in size from 300 to 3,000 in population. Because the communities involved are small, public libraries are unable to meet the academic needs of rural students. To provide access to library materials supporting education delivered at the rural extension sites, the SFCC proposes to extend access to the automated library-service network which serves Spokane county. Through the Spokane Cooperative Library Information System (SCOLIS), the opportunity exists to expand access to this network by adding dial-up capabilities to the system. By the use of dial-up terminals at major rural education sites, SFCC will provide students and faculty with direct access to materials available within the existing network.

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Institution **University of Detroit**
Main Campus Library
4001 W. McNichols Road
Detroit, MI 48221-9987

Project Director Jean Houghton, Assistant Director
for Technical Services
(313) 927-1074

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/91	$64,109	R197A90088

Abstract

The University of Detroit will implement Phase II of DALNET, an automated library network system composed of 11 key Detroit area libraries. The joint database will display the holdings of all member libraries. Each member institution will install telecommunications equipment for accessing the joint database and local-site equipment for performing internal library operations, searching the central database, and manipulating information. The grant will fund DALNET network membership costs, serials check-in, distributed printing, and expanded OPAC implementation at the University's main library. This project will enrich the quality of resource materials for students, faculty, and independent researchers who will have instant access to the combined strengths of all member institutions. Academic programs will be strengthened as better library services and collections are developed.

Institution **University of Illinois at Urbana-Champaign**
246A Main Library
1408 W. Gregory Drive
Urbana, IL 61801

Project Director Barton M. Clark, Director of Departmental Library Services
(217) 333-0317

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$46,761	R197A90074

Abstract

Title II-D funding will be used to upgrade microcomputer hardware used as public access terminals in the ILLINET online statewide automated resource-sharing network in Illinois. These microcomputer terminals presently use cassette storage media for loading online catalog retrieval and interface software. This project will upgrade these microcomputer terminals with hard and floppy disk drives allowing the investigators to install and evaluate online catalog retrieval and interface enhancements, thus providing patrons with access to customized information and referral files stored as microcomputer databases. The upgraded equipment will utilize locally developed retrieval software that will be integrated with the present catalog interface, providing innovative and expanded access to bibliographic and nonbibliographic materials. The upgraded workstations will also accommodate enhanced interface software, providing remote database searching and networking capabilities.

Institution **University of Maine**
Raymond H. Fogler Library
Orono, ME 04429

Project Director Marilyn Lutz, Systems Librarian
(207) 581-1658

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/91	$63,450	R197A90072

Abstract

This project will expand the library network of the University of Maine system, providing online catalog access to the combined holdings of the nine campus libraries to 29 Community College of Maine off-campus locations. To support the increased emphasis on interlibrary loan at the campus libraries resulting from network expansion, automated circulation service will be enhanced with the capacity to perform backup in the event of system failure.

The University will purchase online public access catalog and communications equipment to be placed in these 29 locations throughout the State, circulation back-up personal computers to be placed in the 9 campus libraries of the University, and communications hardware for the library system computer to effect access. To facilitate and speed user access and enhance resource sharing throughout the University of Maine system is the primary objective of this project.

Institution **University of Wisconsin-Stevens Point Libraries**
2100 Main Street
Stevens Point, WI 54481

Project Director Arne Arneson, Library Director
(715) 346-2540

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/92	$73,246	R197A90156

Abstract

This 3-year pilot project will make available the catalogs and selected research sources of the university library of the University of Wisconsin-Stevens Point (UW-SP) to the desktops of students and faculty of the UW-SP and the University of Wisconsin Center (UW-Center) campuses at Marshfield and Wausau.

The sources to be mounted include selected commercial optical indexes (CD-ROM) (e.g., *ERIC, Reader's Guide, the Business Periodicals Index, Dissertation Abstracts, Education Index, Agricola, Psyclit, and PC-SIG*); databases (e.g., government statistics, census data, economic and consumer statistics, state, local, and regional statistics); electronic clipping services; and reference works (e.g., the *Oxford English Dictionary, Microsoft Bookshelf*, and encyclopedias). These resources will complement and enhance an existing state-of-the-art network workstation environment that includes the bibliographic information in the University library's online catalog for monographs, serials, audio-visual materials, government documents, and microforms; access to the University of Wisconsin-Madison general library system online catalog; and applications software (e.g., freeware, shareware, and other appropriately licensed software).

The project will acquire the hardware and software necessary to place commercial optical media on the campus information system network, and install the necessary telecommunications lines to the Wausau and Marshfield campuses. The project will serve as a model to extend the University's information environment to workstations at each of the UW-Center's thirteen campuses.

Institution **Valley City State University**
Allen Memorial Library
College Street
Valley City, ND 58072

Project Director Darryl B. Podoll, Director
(701) 845-7275

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/92	$33,213	R197A90170

Abstract

Valley City State University will purchase the computer and communications equipment necessary to access the North Dakota Higher Education Computer Network Library Information System. The online library catalog of seven North Dakota colleges and universities is the initial step in the development of the state automated library network. Through resource-sharing, students, faculties, and communities will be able to utilize in a rapid and efficient way a greatly expanded collection of learning resources for their study and research. The automated library system also has modules to automate functions in circulation, interlibrary loan, acquisitions and serials. National standard electronic records will permit the North Dakota data base to link with those in Minnesota, South Dakota, and Manitoba.

Institution **Walla Walla Community College**
Library
500 Tausick Way
Walla Walla, WA 99362

Project Director Sandra Blackaby, Director of Library Services
(509) 527-4292

Grant Period	*Award*	*Grant Number*
10/01/89--03/31/91	$29,577	R197A90184

Abstract

Walla Walla Community College Library's project will allow networking participation in a cooperative automated library system that will link libraries in Walla Walla, Washington. The Walla Walla Library System (WALIS) will utilize an online circulation system and compact-disc public-access catalogs in each participating library. Walla Walla Community College will contribute $161,027 as its portion of the project. The total project budget is $410,604, which will be shared between Walla Walla Community College Library, Walla Walla Public Library, and Walla Walla Rural Library District. These libraries are located in the southeastern corner of Washington State, a rural, agriculturally-based region. The WALIS project will significantly increase the amount of local information that patrons can access at the participating libraries by linking their collections through an interdependent automated system.

Section II

Combination Grants

In fiscal year 1989, 81 applications were evaluated under this category and 8 awards were made totaling $762,434.

The combination grants are designed to establish and strengthen joint-use facilities, resources, and equipment.

Academic libraries, utilizing these funds, have been able to initiate telefacsimile document-delivery systems, CD-ROM based public access union catalogs, and other related endeavors. Some of their expected benefits are improved cooperative collection-development programs and the correcting of existing individual collection deficiencies through cooperation.

Many different types of academic libraries (universities, liberal arts colleges, community and junior colleges, and technical institutes) will be affected by these efforts. Over 200 libraries dealing with subject areas from architecture to veterinary medicine are benefiting from these awards.

Institution **The Center for Research Libraries**
6050 S. Kenwood Avenue
Chicago, IL 60637

Project Director Emma S. Davis, Director
Access Services Division
(312) 955-4545

Grant Period	*Award*	*Grant Number*
10/01/89--12/31/90	$44,000	R197B90064

Abstract

The Center for Research Libraries is a high-volume interlibrary loan/document supplier for its 137-member university, college and research libraries and for other academic and research institutions. The Center will purchase and install telefacsimile equipment and begin a service to deliver documents routinely by telefacsimile.

In its continuing efforts to improve the document delivery component of its cooperative collection-development program, the Center has refined the first two stages of the interlibrary loan process --receiving the request and retrieving the materials--to the greatest efficiency at an acceptable cost. Delivery of the material remains the most time-consuming stage, adding at least 3 days to (or, more than doubling) the overall turnaround time.

In the past 5 years, telefacsimile technology has improved, become more affordable, and been installed in enough libraries that it is now a viable routine-delivery method. Funds to acquire and install equipment will enable the Center to utilize telefacsimile as a cost-beneficial delivery service for a projected 50 to 80 percent for the approximately 11,250 photocopy requests filled each year.

Institution **Hobart and William Smith Colleges**
Warren Hunting Smith Library
Geneva, NY 14456

Project Director Janet M. Welch, Executive Director
Rochester Regional Library Council
302 North Goodman Street
Rochester, NY 14607
(716) 461-5441

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/91	$119,430	R197B90019

Abstract

The project's goal is the improvement of academic-library user awareness of and access to the resources of the 13 academic libraries in the Rochester, New York, region through use of a CD-ROM-based public-access union catalog. The project will make directly apparent to academic-library users the benefits of automation; will efficiently use the 2,700,000 records (3,400,000 holdings) already converted into machine-readable form; and will improve the Region's interlibrary loan, coordinated-collection development and direct-access cooperative programs.

The public-access CD-ROM-format union catalog will be located at CD-ROM workstations in public areas of the 13 libraries and will include the holdings of a major research library, nationally recognized music and theological libraries, a medical research library, and the libraries of two State universities, a large technical institute, two community colleges, and four independent liberal arts colleges. Library users will be actively solicited and trained in union catalog use and access to resources.

Institution **Illinois Library Computer Systems Organization (ILCSO)**
University of Illinois
502 E. John Street, Suite 205
Champaign, IL 61820

Project Director Bernard G. Sloan, Director
Illinois Library Computer Systems Office
(217) 244-7593

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$108,673	R197B90048

Abstract

This combination grant provides funding to support the expansion and enhancement of ILLINET Online (IO) interlibrary-loan capabilities to further facilitate resource sharing. IO provides 33 cooperating academic libraries with local and interlibrary circulation support, and local public-access and union catalog capabilities.

This grant will be used to acquire, install, test, and implement the interlibrary-loan software marketed by the Western Library Network (WLN). (The online catalog component of IO is based on WLN software.) This will enable 65 private academic and community college libraries which are not full participants in IO to more fully enjoy the benefits of a statewide resource-sharing network. Since the union catalog contains records representing the holdings of the libraries which are not full participants in the system, it will also enable the 33 full participants to request materials cataloged by nonparticipants.

Institution **McHenry County Community College**
Route 14 & Lucas Rd.
Crystal Lake, IL 60012

Project Director David L. Johnson, Associate Dean for Instruction
(815) 455-3700

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$109,030	R197B90066

Abstract

The five participating colleges will develop a common database to share their library resources using CD-ROM technology. The grant will permit the colleges to acquire the necessary equipment and cataloguing resources. Each library is currently served by the same van delivery system. Additional benefit over the long-term will be the expansion of current cooperative collection-development activities.

Benefits will include bringing more efficient and cost-effective sharing of resources to over 750,000 people served by these community colleges. Ultimately, this database will be accessible to the Northern Illinois Library System and all the citizens of the state will have access to these collections.

Institution **Network of Alabama Academic Libraries (NAAL)**
Alabama Commission on Higher Education
One Court Square, Suite 221
Montgomery, AL 36197-0001

Project Director Sue O. Medina, Director
(205) 269-2700

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$15,589	R197B90041

Abstract

The Network of Alabama Academic Libraries (NAAL) is a consortium of the Alabama Commission on Higher Education and 18 of the state's academic institutions that offer graduate education. NAAL was created to coordinate resource sharing of library resources to enhance statewide education. Alabama is unique among the states in considering its total academic library resources as one research collection. The Network will install telefacsimile equipment and communications capability to improve document delivery for students, faculty, and other scholars in architecture, engineering, and veterinary medicine. Collectively, the collections in these subjects at Auburn University and Tuskegee University form the "backstop" collections for statewide resource sharing in these three academic areas. This project is part of a statewide cooperative-collection program designed to assess collections and correct existing deficiencies to insure that materials adequately support the level of the degrees offered by the institutions.

Institution **Northwest Mississippi Community College**
Highway 51 North
Senatobia, MS 38668

Project Director Mae Bell Fly
Director of Learning Resources Center
(601) 562-3277

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/91	$107,481	R197B90054

Abstract

This combination grant will permit the 15 public community and junior colleges located in Mississippi to plan and implement the Mississippi Information Sharing Network (MISNET). Currently, students at the colleges do not have access to any information outside the local collection. This is especially restrictive when students need access to information contained in periodicals not held by their library.

The MISNET project will allow these libraries to begin to share information resources through the use of fax machines. Before this can be accomplished, however, the periodical collections of each of the 31 main and branch libraries will have to be converted to a machine-readable format. Once this conversion is completed and distributed and fax machines are installed in all the libraries, the community and junior college students in Mississippi will have access to an almost unlimited information database. The project will then be expanded to include the state's public libraries, university systems, and regional and national networks.

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Institution **The Research Libraries Group**
1200 Villa Street
Mountain View, CA 94041-1100

Project Director Alan M. Tucker, Associate Director
Information Resource Application
(415) 962-9951

Grant Period	*Award*	*Grant Number*
10/01/89--11/30/90	$120,216	R197B90070

Abstract

The Research Libraries Group, a nonprofit consortium of major research institutions, will implement a workstation-based ILL system.

RLG's goal for this project is to improve the efficiency of ILL operations and, thereby, improve the sharing of resources among its member institutions. The objectives of the project are: to expedite the internal processing of ILL requests; to improve members' ability to deal with increased ILL traffic; and to encourage the efficient movement of materials among RLG institutions.

ILL workstation, as the name implies, will be an enhanced interlibrary loan subsystem that will operate on an IBM AT compatible personal computer. In general, the ILL workstation will complement the ILL services offered on the Research Libraries Information Network and other networks, and will enable libraries to integrate their ILL activities. The generation, receipt, and management of ILL transactions will be accomplished on the workstation, and the system will thus enable ILL units to eliminate most of their paper files. As a result of the improved efficiency and speed with which the ILL staff will be able to perform their tasks, the faculty and students of member institutions should receive material more expeditiously, and members' ability to share their collections will be improved.

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Institution **SUNY College of Technology at Utica/Rome**
Marcy Campus
Box 3051
Utica, NY 13504-3050

Project Director Bruce Keeney, Director
Library and Learning Resources
(315) 792-7308

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$138,015	R197B90012

Abstract

This Consortium of four academic libraries will establish a regional online catalog and automated circulation system in central New York State, utilizing an already operational OCLC LS2000 system. The initial goals are to: (1) create a database of 800,000 records equally accessible at SUC at Oneonta (a broad-based arts and sciences college) and the SUNY Colleges of Technology at Cobleskill, Delhi, and Utica/Rome (smaller colleges with professional-technical training missions); (2) establish a commonly shared circulation system; and (3) share fully all resources, information, and services across the four regional libraries.

Section III

Services to Institutions Grants

In FY 1989, 13 applications were evaluated under this category and three awards were made, totaling $83,946.

These grants are designed to establish, develop, or expand projects or programs that improve information services provided to institutions of higher education.

Under this category, state and public libraries will establish or develop a high-speed electronic document-delivery system, a set of microcomputer-based staff-training programs, and a telefacsimile network which will provide needed documents to extension students taking off-campus classes.

Institution	**New York Public Library** Research Libraries of New York Public Library Fifth Avenue & 42nd Street New York, NY 10018
Project Director	Anne Skillion, Special Assistant for Public Services (212) 930-0789

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$38,812	R197C90006

Abstract

As research libraries rely increasingly on shared-resources solutions to individual institutional limitations, the development of better mechanisms for document delivery to researchers is imperative. In this Services to Institutions grant, a technology-based model project for improved interlibrary-loan document-delivery services within the Shared Resources Program of the Research Libraries Group (RLG) will be implemented. The Research Libraries of The New York Public Library (NYPL) will provide high-speed delivery of high-quality photocopies to the University of California at Berkeley (UCB) using state-of-the-art telefacsimile equipment offering scanning, fine resolution, and other enhancements essential for effective integration into interlibrary-loan operations. In a significant departure from its present level of service as a "library of last resort," NYPL will become a major lender to UCB for the duration of the project. A five-fold improvement in average turnaround time and the delivery of excellent reproductions are the major objectives; equipment performance, staffing implications, and costs will be evaluated. The results will be circulated to RLG and other interlending partners.

Institution **Pittsburgh Regional Library Center**
100 Woodland Road
Pittsburgh, PA 15232

Project Director H. E. Broadbent, III, Executive Director
(412) 441-6409

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/91	$20,134	R197C90010

Abstract

This project will enhance local, regional, and national resource-sharing and improve library services at participating institutions by extending the Pittsburgh Regional Library Center's successful microcomputer and OCLC training programs to member libraries serving institutions of higher education in Pennsylvania and Western Maryland.

OCLC has mandated retraining for the new online system. Trainees will acquire skills necessary to effectively retrieve records from the OCLC database for cataloging and interlibrary loan, to create new and enhanced records in the OCLC database for resource sharing, and to use microcomputers to improve library services at participating institutions.

Institution **South Dakota State Library**
800 Governors Drive
Pierre, SD 57501-2294

Project Director Jane Kolbe, State Librarian
(605) 773-3131

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$25,000	R197C90011

Abstract

South Dakota State Library will enhance access to library resources and services for the nearly 12,000 to 15,000 extension students taking college courses off campus in South Dakota. The project will have two phases: 1) access to the state's online, library union catalog; and 2) installation of a telefacsimile network to facilitate the rapid transmission of interlibrary loan requests and responses to those requests.

Section IV

Research and Demonstration Grants

In FY 1989, 49 applications were evaluated under this category and 13 awards were made, totaling $1,326,654.

These awards are for research and demonstration projects which meet specialized regional or national needs in utilizing technology to enhance library and information science.

The projects in this category can generally be classified into three areas. These areas are computer assisted instruction, current technology impact studies, and advance systems design. Computer-assisted instruction projects are on many different topics and designed for use by students, faculty, and staff. The current technology impact studies analyze and evaluate the effects of CD-ROM products, hypertext programs, and the linking of machine-readable text and illustration files, to mention just a few.

The advance systems design projects are helping to increase the productivity of researchers, students, and staff by developing improved subject access methods, using expert systems to create knowledge-based electronic information systems, and testing the feasibility of providing online periodical indexing through online public-access catalog systems. These examples indicate the wide spectrum of investigation and demonstration. Awards are also made to support projects that go beyond these three general categories. One such project is developing an electronic textbook. Without innovation and experimentation in the research and demonstration grants, few advances will be made to enhance library and information services, a basic goal of these awards.

Institution **Brigham Young University**
Harold B. Lee Library
1224 HBLL
Provo, UT 84602

Project Director Marvin Wiggins, Bibliographic Instruction Librarian
(801) 378-6346

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/92	$85,677	R197D90057

Abstract

A team of librarians at Brigham Young University will develop a fully-equipped training room and training modules to instruct students in the use of computer-based research tools using hands-on experience as part of instruction. They will attempt to determine if the use of hands-on exercises produces significantly better results in improving patrons' ability to use computer-based research tools than do traditional methods of library instruction.
The objectives of the project are:

1. To identify common errors and problems experienced by students in using computer-based research tools;
2. To develop hands-on training modules for specific computer systems that can be used as prototypes for other instructional programs;
3. To create a computer-equipped training facility that can serve as a model for other institutions;
4. To implement the training modules on an experimental basis, evaluate their effectiveness, and further refine them; and
5. To report the results of the project nationally and make the training materials available to other institutions.

Institution **Eastern Oregon State College**
Walter M. Pierce Library
8th and K Streets
La Grande, OR 97850

Project Director Patricia J. Cutright
Online Reference Librarian
(503) 963-1792

Grant Period	*Award*	*Grant Number*
09/30/89--09/30/90	$38,128	R197D90041

Abstract

Eastern Oregon State College will operate an interactive online CD-ROM and simultaneous remote searching bibliographic network. Services will be provided to off-campus students--many living as far as 300 miles from campus--through CD-ROM bibliographic workstations via toll-free telephone service. The 24-month project will demonstrate that: 1) students attending small rural colleges and placebound students living in rural and remote communities distant from campuses can have immediate and affordable access to information required for their studies; and that 2) support of faculty teaching and research efforts at a small college is enhanced through improved access to information and data. This will be demonstrated through the addition and application of online CD-ROM technology to an existing, proven regional computer/telefacsimile network which uses interactive online electronic database searching. CD-ROM technology will free users from time limits and print restrictions in browsing indexes freely and extensively without online commercial database connection restraints.

Institution **Georgetown University**
Dahlgren Memorial Library
Georgetown University Medical Center
3900 Reservoir Road, NW
Washington, DC 20007

Project Director Naomi C. Broering, Director
Biomedical Information Resources Center
(202) 687-1187

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/92	$200,287	R197D90034

Abstract

The Dahlgren Memorial Library at Georgetown University will launch a 3-year project to investigate the ability of the library to develop an "electronic textbook" in human physiology. The goals are twofold: to create a new type of library service to improve knowledge management, by developing an "electronic textbook;" and to strengthen the library's use of technology, by demonstrating the ability to present repackaged and reformatted information to users. The project enables the library to bring together varied pieces of information, both print and nonprint materials, into a unique computer system and has the added dimension of enhancing the library's role in higher education.

The project has four objectives: (1) to develop a knowledge base of core-learning materials in human physiology; (2) to utilize multiple information technologies to create synergy in learning; (3) to integrate the knowledge base and multiple technologies into a single access workstation which stores the "electronic textbook"; and (4) to evaluate the "electronic textbook" as a new type of learning resource. The knowledge base will be developed using a modular approach, beginning with renal physiology, proceeding to cardiovascular physiology, and then testing the modules as portions become available. By integrating multiple information technologies, traditional textual and nonprint information can be combined with sound, animation, and simulation to create a new form--the "electronic textbook".

Institution **Indiana University of Pennsylvania**
Library and Media Resources
203 Stapleton Library
Indiana, PA 15705

Project Director L. K. Rambler, Associate Director
for Technical Services and Systems
(412) 357-2335

Grant Period	*Award*	*Grant Number*
01/01/90--08/31/91	$83,130	R197D90020

Abstract

The goal of this project is to improve subject access to the contents of online public-access catalogs. Expert systems and Hypercard technologies will be used to generate subject-area maps for an existing database of 20,000 enhanced MARC records. Several researchers have explored the value of enhancing cataloging records by adding keywords drawn from the table of contents (chapter level terms) to the MARC record. The expert system design will link the terminology from the table of contents terms (natural language) to the controlled subject-heading language (thesaural language) in each MARC records. These terms will be anchored to the class number in the MARC record. Rules to govern subject-area map generation will be established to control the expected linguistic confusion. Hierarchic screen displays will control the possibility of users' getting "lost" in multiple graphic displays of subject-area maps. As the user searches, the expert system will assist in developing and refining search strategies, offering broader or narrower terms as relevant to a specific search.

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Institution **Metropolitan State University**
121 Metro Square Building
121 Seventh Place
St. Paul, MN 55101

Project Director Colleen Coghlan, University Librarian
(612) 296-0722

Grant Period	*Award*	*Grant Number*
09/30/89--09/30/92	$116,750	R197D90056

Abstract

This project aims to develop technologically apt, sophisticated, and successful library users able to search area online library catalogs and commercial databases from any modem-equipped location and able also to download, add notes, reorganize, and build an integrated, personal information system.

The project builds upon library-networking and resource-sharing policies and practices already a part of Metropolitan State University, a dispersed, rapidly growing urban university for more than 6,000 working adults in and around St. Paul and Minneapolis, Minnesota.

The project adds a) equipment b) basic, better, and advanced user workshops for faculty, student, alumni, and the general public; c) ongoing telephone help; and d) followup user exchanges, in print, interpersonal, and electronic formats. From all of this will come useful data, professional insights, and a continuing network of sources and users able to learn more efficiently, argue more effectively, and be generally better informed after culling this expanded universe of possibilities.

Institution **Milwaukee Area Technical College**
700 West State Street
Milwaukee, WI 53233

Project Director Richard Meerdink, District Librarian
(414) 278-6946

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/92	$92,340	R197D90010

Milwaukee Area Technical College will pilot a process for joint development by faculty and library staff of a curriculum-based collection, evaluation, and selection system, and ACCESS library model.

Concurrent with the proposed effort, Milwaukee Area Technical College proposes to acquire and promote use of large, bibliographic databases using technology such as CD-ROM and Dial-Up Access for retrospective searches and to support interlibrary searches and loans; and to provide faculty accessibility and to develop faculty access strategies to a national online database and other resources to support faculty research and development of curriculum materials.

Traditionally, the library provides print and nonprint materials for circulation, ready reference, or for reserve use. The emerging computer technology will soon convert film and tape media to digital media and, in the future, there will be no distinction. MATC, in 1986, merged A/V cataloging and distribution for classroom support with the library operation, which is the beginning of an integrated approach. The next step is to develop the relationship to curriculum. A review of the literature indicates that such a plan has not been developed nor implemented nationally. Faculty survey results cite a strong need.

Institution **Northwestern University**
Northwestern University Library
633 Clark Street
Evanston, IL 60208-2300

Project Director Velma Veneziano, Systems Design Coordinator
(708) 491-8302

Grant Period	*Award*	*Grant Number*
10/01/89--10/30/90	$73,534	R197D90044

Abstract

The goal of the project is to enable the user of an online public access catalog, in a one-stage search, without loss of recall or precision, to locate catalog records, some of which contain subject headings assigned from one subject heading list or thesaurus and some of which contain subject headings from another list. The two lists selected for integration are the Library of Congress Subject Headings (LCSH) and the National Library of Medicine's Medical Subjects (MeSH). This goal will be achieved by:

1. Augmenting USMARC LCSH authority records by adding "references" from terms which are established for use in MeSH, but for which there is no matching LCSH established or reference term; and

2. Developing a machine-based technique whereby, at search time, headings used in one subject system can be dynamically mapped to the corresponding headings in another system.

Institution **Rensselaer Polytechnic Institute**
Folsom Library
Troy, NY 12180

Project Director George Nagy, Professor
Electrical Computer and Systems
Engineering Department
(518) 276-6078

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/91	$106,010	R197D90022

Abstract

Librarians face an extraordinary problem in attempting to bring vast numbers of printed documents into the electronic information age. While progress is being made in creating full-text online files, information stored as print-on-page persists. This project will demonstrate three specific applications for integrating paper-based information into an electronic environment. The first will allow library users to interactively select and view portions of page-image, such as illustration subtitles or text paragraphs, when either the screen resolution of their workstation or low transmission rates prevent viewing the bitmap of an entire page. This project will use the RPI library's existing online file of 1988 IEEE titles, authors, and abstracts for document selection. The second application will automate the selection of suitable portions of the document (e.g., abstracts) for subsequent optical character recognition for full-text search of journals and reports in paper form. The third application will automatically link pixel maps of illustrations with ASCII text files. The proposed project will be undertaken jointly by researchers of the RPI-ECSE Document Group and the RPI Library Automation Group.

Institution **Texas A&M University**
Sterling C. Evans Library
College Station, TX 77843

Project Director Hal W. Hall, Head
Special Formats Division
(409) 845-2316

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$104,536	R197D90002

Abstract

The Macintosh-NOTIS User Interface Project will expand and enhance the interactive user interface for patron access to any of the NOTIS sites in the region, via established network or dial-in communications options. This prototype program, referred to as MacNOTIS, was developed in the Texas A&M University Library. Based on the Macintosh Hypercard program, the project allows library users access to online help screens to assist them in search strategies and search options available in the NOTIS system. Key concepts guiding the project were ease of modification of the connect modules for local users and replicability of the project at any NOTIS site.

Institution **University of Houston**
University Libraries
Houston, TX 77204-2091

Project Director Robin N. Downes, Director
(713) 749-4241

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/91	$99,852	R197D90014

Abstract

The University of Houston Libraries will develop and study an Intelligent Reference Information System (IRIS). This system combines two exciting, emerging technologies--networked CD-ROM databases and expert systems--to create an innovative, knowledge-based electronic information system. IRIS will (1) identify and describe appropriate electronic and printed resources to meet users' reference information needs; (2) link users to appropriate networked CD-ROM databases; and (3) provide users with location information about appropriate stand-alone CD-ROM databases and printed reference sources. The proposed IRIS project is an extension of two existing cutting-edge projects: an end-user CD-ROM center and a reference expert system development effort. By exploring a wide-range of issues related to networked CD-ROM systems, expert systems, and the synergistic combination of these two technologies, the IRIS project will advance significantly the state of the art in library automation systems.

Institution

University of Minnesota, Twin Cities
Humanities/Social Sciences Libraries
Room 1, Wilson Library
Minneapolis, MN 55455

Project Director

James A. Cogswell, Project Director
(612) 624-5518

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$97,509	R197D90024

Abstract

A full-service information center, dedicated to providing end-users with direct access to machine-readable data files produced by the Federal government will be established within the Humanities/Social Sciences Libraries of the University of Minnesota. The Machine-Readable Data Center will provide space, staff, equipment, and services needed to identify, acquire, organize, and access numeric and statistical data sets produced and distributed by the U.S. government. The project will develop innovative approaches to provide users, both on- and off-site, with direct access to primary data files, whether on magnetic tape, in microcomputer storage devices, or through online searching.

Institution **University of Tennessee, Knoxville**
Knoxville Libraries
Knoxville, TN 37996-1000

Project Director Pauline S. Bayne, Head
Music Library
(615) 974-3474

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$66,901	R197D90040

Abstract

This project will demonstrate that computer-based training (CBT) modules, produced as HyperCard stacks, are an efficient and effective technique for staff training in libraries. Typical high turnover and lack of systematic training programs in libraries, at a time when libraries are becoming more complex and have diminishing funds available to them, point to a need for improvement in training technology. Cross-training and retraining, as well as initial training, of all levels of staff are needed.

After national input for determining training needs, the project team will develop six modules for use on Macintosh computers with HyperCard software. After testing, team members will develop an implementation plan to regularize the use of the CBT modules. Results will be actively publicized through journal articles, professional conference presentations, or other appropriate methods. The CBT modules will be distributed to other libraries.

Institution **University of Texas at Arlington**
University Libraries
P.O. Box 19497
Arlington, TX 76019

Project Director Charles B. Lowry, Director of Libraries
Robert Samson, Assistant Director for Automation Services
(817) 273-3391

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/91	$162,000	R197D90028

Abstract

The purpose of this project is to demonstrate the feasibility of providing online periodical indexing to library holdings of the UTA libraries through the online public-access catalog (OPAC) of the NOTIS library system. This project will demonstrate several innovative approaches in utilizing technology for library services which distinguish it from other apparently similar projects:

- Extracting journal indexing records to UTA holdings from commercially produced machine-readable bibliographic data files, enhancing the records by adding call numbers and journal holdings of UTA Libraries;

- Extracting periodical-holdings information from the same files which represent holdings in the collections of other local area academic research libraries which have resource sharing agreements with UTA ; and

- Re-formatting these extracted indexing records into "pseudo-MARC" files which can be loaded into the NOTIS OPAC and used by patrons through the familiar command/search structure they have already experienced.

Section V

Continuation Grants

These projects first won awards in FY 1988. At that time, the projects were recommended for continuation in FY 1989 on a non-competitive basis. Two of the grants (to Bismarck State Collage and the University of Wisconsin-Madison) are for Combination projects and the other three (to Cornell University, the University of Alabama, and the University of Alaska, Anchorage) are for Research and Demonstration projects. Brief descriptions of these five projects follow.

Institution **Bismarck State College**
Library Excellence in North Dakota (LEND)
1500 Edwards Avenue
Bismarck, ND 58501

Project Director Patricia Harris, State Librarian
Val Morehouse, Automation Consultant
North Dakota State Library
Capital Grounds
Bismarck, ND 58505
(701) 224-2492

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$66,200	R197A80100B-89

Abstract

This project will continue to automate the 1.6 million-record database of North Dakota college and university library holdings through the development of a statewide, online library catalog which will link the North Dakota State University catalog, the Minnesota State University library system, and the South Dakota State system.

Institution **Cornell University**
A.R. Mann Library
120 Day Hall
Ithaca, NY 14853

Project Director Jan Olsen, Director
Katherine Chiang, Computer Data Files Librarian
(607) 255-2285

Grant Period	*Award*	*Grant Number*
01/01/90--12/31/90	$56,784	R197A80324D-89

Abstract

Cornell will continue its design and implementation of a computer system to provide interactive, online access through the Cornell campus telecommunications network to data files in the biological and agricultural sciences via the creation of front-end software.

Institution **University of Alabama**
University Libraries
P. O. Box 870104
Tuscaloosa, AL 35487-0104

Project Director Frances Behnham
Associate Dean of Libraries for
Collections and Information
(201) 348-5569

Grant Period	*Award*	*Grant Number*
01/01/90--12/31/90	$45,704	R197A80299D-89

Abstract

The University of Alabama will proceed in its development of comparative research data on two methods of library instruction to determine if course-integrated library instruction utilizing CD-ROM and end-user online searching is positively associated with improvement in student capabilities in retrieving, evaluating, and communicating information on engineering topics.

Institution **University of Alaska, Anchorage**
Anchorage Library
3211 Providence Drive
Anchorage, AK 99508

Project Director Jack O'Bar, Director
(907) 786-1825

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$49,108	R197A80281D-89

Abstract

In conjunction with the University of Alaska Computer Network, UA, Anchorage will continue to demonstrate the usefulness of telefacsimile-computer technology and the effectiveness of this technology as a means of enhancing library resource-sharing activities already in place.

Institution

University of Wisconsin-Madison
Memorial Library
728 State Street
Madison, WI 53706

Project Director

D. Kaye Gapen
Dean of Libraries
(608) 262-2600

Grant Period	*Award*	*Grant Number*
10/01/89--09/30/90	$116,415	R197A80235B-89

Abstract

This project will continue to improve the University of Wisconsin-Madison libraries' resource-sharing program through a user-transparent network utilizing telefacsimile and electronic mail for document-delivery, online-reference, and collection-development activities for the University of Wisconsin system.

Analysis and Trends

Reviewing the abstracts of FY 89 projects funded under the College Library Technology and Cooperation Grants Program, HEA Title II-D, is a great way to look at the trees. For those who would like a glimpse of the forest, this chapter contains general observations about the FY 89 grant awards, how they compare to those made in FY 88, patterns in funding, and how the funded projects address trends in library technology.

Overview

In FY 89, the Department of Education made 52 awards under HEA Title II-D to institutions in 21 states and the District of Columbia. In the program's first year, FY 88, there were 46 grants to institutions in 26 states and the District. Table 1 provides a summary, by state, for FY 89. The number of grants per state range from one to nine, and the funds per state from $26,390 to $637,040.

Table 1.–Distribution of awards, by state: FY 1989

STATE	Number of Awards	Percent of Awards	Percent of Funds	Total funds per state
Totals	52	100.00%	100.00%	$3,651,000
Alabama	2	3.85%	1.68%	61,293
Alaska	1	1.92%	1.35%	49,108
California	1	1.92%	3.29%	120,216
District of Columbia	2	3.85%	9.59%	350,043
Florida	1	1.92%	0.72%	26,390
Illinois	6	11.54%	11.70%	427,003
Maine	1	1.92%	1.74%	63,450
Michigan	3	5.77%	4.88%	178,009
Minnesota	2	3.85%	5.87%	214,259
Mississippi	1	1.92%	2.94%	107,481
New Jersey	1	1.92%	0.83%	30,305
New York	9	17.31%	17.45%	637,040
North Dakota	3	5.77%	3.50%	127,685
Oregon	1	1.92%	1.04%	38,128
Pennsylvania	2	3.85%	2.83%	103,264
South Dakota	3	5.77%	4.49%	163,883
Tennessee	3	5.77%	3.45%	125,939
Texas	3	5.77%	10.04%	366,388
Utah	1	1.92%	2.35%	85,677
Virginia	1	1.92%	0.93%	34,000
Washington	2	3.85%	1.63%	59,438
Wisconsin	3	5.77%	7.72%	282,001

While there is no requirement that the awards be geographically distributed, the data clearly show a reasonable geographical distribution of awards.

The program does, however, require that at least one of each type of grant (Networking, Combination, Services to Institutions, Research and Demonstration) be made each year. As table 2 demonstrates, that requirement was met and exceeded in both FY 89 and FY 88. Table 2 also gives a breakout of funds among the different types of grants and the dollar range of awards and mean amounts for both years.

Table 2.–Summary of funding, by type of grant: FY 1988 and FY 1989

	Number of awards	Funds awarded	Range of grants	Mean
		Fiscal year 1988		
Total	**46**	**$3,590,000**		
Networking	20	1,046,776	15,697-220,073	$ 52,339
Combination	14	1,461,423	47,887-174,000	104,387
Services to Institutions	3	71,744	21,747-25,000	23,915
Research and Demonstration	9	1,010,057	77,652-175,746	113,427
Continuations*				
		Fiscal year 1989		
Total	**52**	**$3,651,000**		
Networking	23	1,143,755	15,915-149,756	49,728
Combination	8	762,434	15,589-138,015	95,304
Services to Institutions	3	83,956	20,134-38,812	27,982
Research and Demonstration	13	1,326,654	38,128-200,287	102,050
Continuations*	5	334,221	45,704-116,415	66,842

*No continuation grants made the first year of the program. The five continuation grants for FY 89 were for multiple year projects that received first-year funding in FY 1988. Two were Combination projects and three were for Research and Demonstration.

As shown in table 3, the length of the projects runs from 1 to 3 years, and the types of institutions receiving awards cover a broad spectrum. Included are colleges both large and small, 2- and 4-year, and publicly and privately controlled. The type of college and form of

control shown in the table are taken from the *1987-88 Directory of Postsecondary Institutions*, published by the National Center for Education Statistics.

Table 3.–Descriptive information on institutions awarded grants, by type of grant: FY 1989

Recipient	State	Type of College	Publicly Controlled	Length in Years
NETWORKING				
Augustana College	SD	4	n	1
Columbia State Community College	TN	2	y	1
Dickinson State University	ND	4	y	1
D'Youville College	NY	4	n	3
Georgetown University	DC	4	n	3
Gogebic Community College	MI	2	y	3
John B. Stetson University	FL	4	n	3
Long Island University	NY	4	n	3
Maryville College	TN	4	n	3
Mercy College	NY	4	n	2
Middlesex County College	NJ	2	y	1
New River Community College	VA	2	y	2
Oakland Community College	MI	2	y	3
Oglala Lakota College	SD	4	y	1
Pace University	NY	4	y	1
Prairie State College	IL	2	y	3
Spokane Falls Community College	WA	2	y	1
University of Detroit	MI	4	n	2
University of Illinois, Urbana	IL	4	y	1
University of Maine	ME	4	y	2
University of Wisconsin Stevens Point	WI	4	y	3
Valley City State University	ND	4	y	3
Walla Walla Community College	WA	2	y	1.5

Recipient	State	Type of College	Number of Libraries	Publicly Controlled	Length in Years
COMBINATION*					
Center for Research Libraries	IL	NA	137	NA	1.25
Hobart & William Smith Colleges	NY	NA	13	NA	2
Illinois Library Computer System	IL	NA	33	NA	1
McHenry County College	IL	NA	5	NA	1
Network of Alabama Academic Libraries	AL	NA	18	NA	1
Northwest Mississippi Community College	MS	NA	15	NA	2
Research Library Group	CA	NA	36	NA	1.16
SUNY College of Technology Utica/Rome	NY	NA	4	NA	1

Table 3. - continued

	State	Type of College	Publicly Controlled	Length in Years
SERVICES TO INSTITUTIONS*				
New York Public Library	NY	NA	y	1
Pittsburgh Regional Library Council	PA	NA	NA	2
South Dakota State Library	SD	NA	y	3
RESEARCH AND DEMONSTRATION				
Brigham Young University	UT	4	n	3
Eastern Oregon State College	OR	4	y	1
Georgetown University	DC	4	n	3
Indiana University of Pennsylvania	PA	4	y	1.6
Metropolitan State University	MN	4	y	3
Milwaukee Area Technical College	WI	2	y	1
Northwestern University	IL	4	n	1
Rensselaer Polytechnic Institute	NY	4	n	2
Texas A and M University	TX	4	y	1
University of Houston	TX	4	y	2
University of Minnesota	MN	4	y	1
University of Tennessee	TN	4	y	1
University of Texas	TX	4	y	2
CONTINUATIONS				
Bismarck State College	ND	2	y	1
University of Wisconsin	WS	4	y	1
University of Alaska	AK	4	y	1
University of Alabama	AL	4	y	1
Cornell University	NY	4	n	1

*The reporting of Combination and Service to Institutions grants are different because the awardees are multiple or are not colleges or universities.

Table 3 illustrates another important point. The impact of a library technology award is not felt by just a single institution but by many colleges (and their students and faculties). This is most obvious with the Combination grants. The Combination projects funded in FY 89 directly affected from 4 to 137 libraries and, together, influenced the operations of 257 libraries.

This grant program has a one-third matching requirement. A number of the projects, however, offer a matching amount that is greater than one-third, as table 4 illustrates. Institutions may exceed the matching requirement for a number of reasons, including the size, complexity, use of multiple-funding sources, and length of some of the projects.

Table 4.–Grant requests, awards, and matching funds, by type of grant: FY 1989

Recipient	State	Original request	Proposed matching	Funds awarded	Total (awarded and proposed matching)
Grand Total				**$3,651,000**	
	NETWORKING				
Total		**$1,286,041**	**$1,595,598**	**$1,143,755**	**$2,739,353**
Augustana College	SD	40,000	130,938	39,318	170,256
Columbia State Community College	TN	29,405	19,491	29,405	48,896
Dickinson State University	ND	31,622	97,501	28,272	125,773
D'Youville College	NY	70,649	109,622	65,299	174,921
Georgetown University	DC	156,056	155,151	49,756	304,907
Gogebic Community College	MI	46,064	25,200	40,308	65,508
John B. Stetson University	FL	26,390	10,621	26,390	37,011
Long Island University	NY	15,915	17,784	15,915	33,699
Maryville College	TN	32,033	18,728	29,633	48,361
Mercy College	NY	70,605	25,714	65,605	91,319
Middlesex County College	NJ	30,305	35,309	30,305	65,614
New River Community College	VA	36,720	22,857	34,000	56,857
Oakland Community College	MI	80,413	332,930	73,592	406,522
Oglala Lakota College	SD	137,068	47,080	99,565	146,645
Pace University	NY	31,170	11,892	31,170	43,062
Prairie State College	IL	48,648	46,714	45,005	91,719
Spokane Falls Community College	WA	29,861	11,895	29,861	41,756
University of Detroit	MI	111,938	37,313	64,109	101,422
University of Illinois, Urbana	IL	61,693	32,440	46,761	79,201
University of Maine	ME	63,450	23,478	63,450	86,928
University of Wisconsin Stevens Point	WI	73,246	24,415	73,246	97,661
Valley City State University	ND	33,213	197,498	33,213	230,711
Walla Walla Community College	WA	29,577	161,027	29,577	190,604
	COMBINATION				
Total		**$1,033,069**	**$ 671,603**	**$ 762,434**	**$1,434,037**
Center for Research Libraries	IL	44,000	56,008	44,000	100,008
Hobart and William Smith Colleges	NY	119,430	97,050	119,430	216,480
Illinois Library Computer System	IL	144,198	68,077	108,673	176,750
McHenry County College	IL	198,364	133,728	109,030	242,758
Network of Alabama Academic Libraries	AL	15,589	8,388	15,589	23,977
Northwest Mississippi Community College	MS	108,381	54,151	107,481	161,632
Research Library Group	CA	125,704	62,809	120,216	183,025
SUNY College of Technology Utica/Rome	NY	277,403	191,392	138,015	329,407

Table 4. - continued

Recipient	State	Original request	Proposed matching	Funds awarded	Total (awarded and proposed matching)
SERVICES TO INSTITUTIONS					
Total		**$ 87,746**	**$ 53,912**	**$ 83,946**	**$137,858**
New York Public Library	NY	38,812	30,751	38,812	69,563
Pittsburgh Regional Library Council	PA	23,934	12,240	20,134	32,374
South Dakota State Library	SD	25,000	10,921	25,000	35,921
RESEARCH AND DEMONSTRATION					
Total		**$1,484,901**	**$963,447**	**$1,326,654**	**$2,290,101**
Brigham Young University	UT	88,177	13,013	85,677	98,690
Eastern Oregon State College	OR	81,299	102,803	38,128	140,931
Georgetown University	DC	203,537	183,009	200,287	383,296
Indiana Univ. of Pennsylvania	PA	90,205	68,530	83,130	151,660
Metropolitan State University	MN	179,800	66,300	116,750	183,050
Milwaukee Area Technical College	WI	96,016	73,976	92,340	166,316
Northwestern University	IL	77,763	38,975	73,534	112,509
Rensselaer Polytechnic Institute	NY	106,510	66,200	106,010	172,210
Texas A and M University	TX	105,896	84,544	104,536	189,080
University of Houston	TX	99,852	94,710	99,852	194,562
University of Minnesota	MN	99,710	38,773	97,509	136,282
University of Tennessee	TN	66,901	36,766	66,901	103,667
University of Texas	TX	189,235	95,848	162,000	257,848
CONTINUATIONS					
Total				**$ 334,211**	
Bismarck State College	ND	---	---	66,200	---
University of Wisconsin	WI	---	---	116,415	---
University of Alaska	AK	---	---	49,108	---
University of Alabama	AL	---	---	45,704	---
Cornell University	NY	---	---	56,784	---

NOTE: Minimum, maximum, and mean amounts of the various awards were:

	Minimum	Maximum	Mean
Networking	$15,915	$149,756	$49,728
Combination	15,589	138,015	95,304
Services to Institutions	20,134	38,812	27,982
Research and Demonstration	38,128	200,287	102,050
Continuations	45,704	116,415	66,842

Patterns in Funding

With data for only FY 88 and FY 89, it is difficult to identify trends or patterns in funding for the HEA Title II-D Program. However, the following survey may help to give a picture of the expected benefits resulting from this program.

If the number of grant applications is any indicator of academic libraries' need and desire to automate services and utilize networks, then the need and desire are growing. From FY 88 to FY 89, the number of requests increased 15.5 percent, from 330 to 381 (see table 5). The average request also increased, from $78,104 in FY 88 to $86,217 in FY 89. This is an average increase of more than $8,100, or 10.4 percent, per grant proposal.

Table 5.–Distribution of applications, by type of grant: FY 1988 and FY 1989

Type	Applications	Funds requested
	Fiscal year 1988	
Total	**330**	**$25,774,205**
Networking	160	8,459,000
Combination	74	9,925,000
Services to Institutions	15	526,205
Research and Demonstration	53	6,864,000
Ineligible Applications	28	*
	Fiscal year 1989	
Total	**381**	**32,848,687**
Networking	175	12,138,427
Combination	81	12,566,496
Services to Institutions	13	800,694
Research and Demonstration	49	7,343,070
Ineligible Applications	63	*

*Funds requested are included in the four categories of grants.

For the HEA Title II-D Program, the type of grant most frequently made is Networking. However, the type of award with the highest funding total shifted from Combination in FY 88 to Research and Demonstration in FY 89. Table 6 shows the shifts in numbers of awards and amounts for the different categories from FY 88 to FY 89. Table 7 provides the percentage of awards and percentage of funds awarded for each of the different grant categories for both years.

Clearer trends in the types of applications and awards will be possible after the third and fourth years of grant awards. (The reader will note that no Continuation grants were made in FY 88, the first year of the program.)

Table 6.–Distribution of awards, by type of grant: FY 1988 and FY 1989

Type	Applications	Funds requested
	Fiscal year 1988	
Total	**46**	**$3,590,000**
Networking	20	1,046,776
Combination	14	1,461,420
Services to Institutions	3	71,743
Research and Demonstration	9	1,010,061
	Fiscal year 1989	
Total	**52**	**3,651,000**
Networking	23	1,143,755
Combination	8	762,434
Services to Institutions	3	83,946
Research and Demonstration	13	1,326,654
Continuations	5	334,211

Table 7.–Percentage of awards and funds, by type of grant: FY 1988 and FY 1989

	Awards	Amounts
	Fiscal year 1988	
Total	**100.0%**	**100.0%**
Networking	43.5%	29.2%
Combination	30.4%	40.7%
Services to Institutions	6.5%	2.0%
Research and Demonstration	19.6%	28.1%
Continuations	0.0%	0.0%
	Fiscal year 1989	
Total	**100.0%**	**100.0%**
Networking	48.9%	34.5%
Combination	17.0%	23.0%
Services to Institutions	6.4%	2.5%
Research and Demonstration	27.7%	40.0%
Continuations	*	*

*Continuations are omitted from this calculation of percentage because only new awards are presented in this table.

Trends in Library Technology

The types of projects proposed and funded under the HEA Title II-D Program are very representative of trends seen in academic librarianship as a whole today.

Looking first at the Networking category, the trend of providing patrons with "access to materials" and away from "local ownership" is very clear. All Networking projects involve the use of automated library systems to make information about a library's individual holdings accessible to many other libraries electronically. Funds support both first-time efforts and the upgrading or replacing of obsolete systems. The first-time efforts are mainly in smaller libraries, whereas the upgrades are generally in larger institutions. In both cases, networking projects increase resource sharing--a way for institutions to deal with the problem of the ever-increasing costs of books and journals. Students and faculty members can obtain access to collections not owned by their colleges or universities. The first access is bibliographic, which is done over a network of systems; then the cooperating outside institution can send the needed items through an interlibrary-loan system or supply copies electronically.

In the category of Combination grants, there are several trends apparent. The trend toward faster document-delivery systems is observed in projects expanding current online interlibrary-loan systems to additional libraries and the utilization of telefacsimile equipment among cooperating libraries. The increasing use of integrated online public-access systems by a group of libraries sharing a system is also seen. In addition, the creating of CD-ROM based public-access union catalogs provides additional access points over the card catalog. The additional access and speed of document delivery assist student learning and increase the productivity of teaching and researching faculties. The trends noted in Combination grant projects support the intent of this type of award, which is to help establish and strengthen joint-use of facilities, resources, and equipment.

The trends in library technology that are supported in the Services to Institutions category of grants are the same as those in the Combination grants. These trends are the more timely (electronic) delivery of needed documents and increased resource sharing via online catalogs.

The trends reflected in the Research and Demonstration projects reveal not only trends in the fields of library and information science research but general societal trends, too. Library managers are facing a proliferation of information, coupled with the continually rising costs of books and journals, tighter funding, and greater user

expectations for services. This results in a need for new methods to manage and utilize today's information. Libraries are required to obtain, process, and make accessible, very large amounts of information that are being produced in many new formats (online, CD-ROM, CDI, etc.), in addition to the standard ink-on-paper items. New formats also give rise to new tools for accessing the information. Librarians, therefore, are required to learn how to utilize these tools fully and also to teach patrons. Projects in this category include the study of the effects of these new technologies and the development of ways to better inform staff and patrons in the use of new information sources and access tools. Other projects are assembling systems to help improve subject access to and the indexing of library collections. Still others are undertaking the development, use, and evaluation of expert systems, along with the development of electronic textbooks. Academic librarians must conduct much research and test and demonstrate many systems in order to increase their productivity and meet the needs of students and faculties in this information age.

Appendix: The Grant Cycle

The application process for grants under the College Library Technology and Cooperation Grants Program (HEA, Title II D) formally starts in November when the Department of Education mails application packages to all institutions of higher education in the United States and its territories, as well as to anyone who has requested a copy. From the first part of November until the deadline (which is usually during the second week in January) is the application phase. During this time (and before) Office of Library Programs (LP) staff are available to answer questions and consult with applicants.

The next phase in the process is the receipt of applications. The Application Control Center (ACC) receives, logs in, and makes copies of the HEA II-D applications which then are forwarded to LP.

Once in LP, the applications undergo a screening process. Staff review applications to determine if they are complete (having all the necessary forms, etc.) and to verify that they address the Program's stated selection criteria. Normally the screening is completed by the end of February or the first part of March. The application review phase then commences.

The review phase takes 4 to 6 weeks. During this time, previously-approved teams of three reviewers receive packets of applications. Each team reads a set of applications for one of the four types of grants. LP encourages the reviewers to confer; however, each reviewer rates each application individually. (The reviewers are library and information science professionals; they are employed in either graduate library schools where they teach library automation and/or information science; or they are in management or technology-related positions in libraries.) Reviewers receive no compensation for their work.

The reviewers return their evaluations to LP whose staff then tally, average, and rank the scores. The Director of LP recommends a slate of awards to the Assistant Secretary for Educational Research and Improvement who then presents a funding memorandum to the Department's Grants and Contracts Service (GCS). The funding memorandum not only recommends to GCS a slate of awards, but also describes the process used to develop the slate. This phase is normally completed by the first part of June.

The next phase of the process is negotiations. Grants Specialists and the Project Officer in LP negotiate any necessary budget changes with the successful applicants during July and early August. When negotiations are completed, GCS makes its final funding determination.

Under the law, the Department must give Congress first notification of the funding determination. Five days after that, GCS begins notification of the awardees. LP also contacts each non-funded applicant by mail. The announcement process generally is completed by late summer or early fall.

There are post-award phases too. The LP Program Officer monitors funded projects by telephone and occasionally makes site visits when funds are available.

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